

a sensing element disposed in the front portion at a vicinity of the front surface of the semiconductor substrate;

a diaphragm contoured by a cavity extending from the rear surface into the rear portion of the semiconductor substrate; and

Cont'd
A1 a diffused layer disposed on and along the P-N junction plane and exposed to a side surface of the semiconductor sensor chip, the diffused layer having a same conductivity type as the rear portion where the cavity is located and having an impurity density higher than an impurity density of the rear portion of the semiconductor substrate.

[Please add the following new claim:]

A2
sub 10. (New) The semiconductor sensor chip as in claim 6, wherein the diffused layer has a pattern for permitting the front and rear portions to directly contact each other at a position below the diaphragm.

11. (New) The semiconductor sensor chip as in claim 6, wherein the diffused layer is for preventing P-N junction plane leakage current.
